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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1961.

## No. 840

ONSRUD MACHINE WORKS, INC.,
*Petitioner,*

*vs.*

EKSTROM-CARLSON & CO.,
*Respondent.*

## PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

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**PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.**

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*To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:*

Your petitioner, Onsrud Machine Works, Inc., respectfully prays for a writ of certiorari to the United States Court of Appeals for the Seventh Circuit to review the judgment of that Court entered on the 4th day of January 1962 (petition for rehearing denied February 6, 1962). A transcript of the record in this case, including the proceedings in said Court of Appeals, is furnished herewith in accordance with Rule 21(3) of this Court.

## OPINIONS OF THE COURTS BELOW.

The judgment of the District Court dated May 31, 1961, holding claims 16, 17, 18 and 20 of Patent No. 2,723,598 valid and infringed, without opinion but including Find-

ings of Fact and Conclusions of Law, is reported in 197 Fed. Supp. 451, 129 U.S.P.Q. 457, and appears at pages 303 to 310, inclusive, of Defendant-Appellant's Appendix printed for the Court below and filed herewith as part of the record as printed for the use of the Court below.

The opinion of the Court of Appeals for the Seventh Circuit dated January 4, 1962, affirming the District Court and including the dissenting opinion of Judge Swygert, is reported in 298 Fed. 2nd 765, 132 U.S.P.Q. 224, and appears in the appendix hereof at page 2a.

## STATEMENT OF THE GROUNDS ON WHICH JURISDICTION OF THIS COURT IS INVOKED.

1. The judgment of the Court of Appeals sought to be reviewed was entered on January 4, 1962 and appears in the Appendix hereof at page 14a.

2. A petition for rehearing was denied by the Court of Appeals on February 6, 1962; and an order granting stay of mandate for 60 days from February 6, 1962 was entered on February 12, 1962, the said order appearing at page 15a of the appendix hereof.

3. The jurisdiction of the Court is invoked under 28 U.S.C. 1254 (1), 62 Stat. 928.

## THE QUESTIONS PRESENTED FOR REVIEW.

The decision of the Court of Appeals in this case presents the following questions for review:

1. What standards are to be applied by the Courts and the Patent Office in determining, under the provisions of 35 U.S.C. 103 (1952 Patent Act) whether the subject matter sought to be patented as a whole would be obvious to a person having ordinary skill in the art to which the said subject matter pertains?

2. When the prior art differs only by use non-analogous to the use of a patented invention does 35 U.S.C. 103 exclude such prior art from showing that the patented invention as a whole would be obvious to a person of ordinary skill in the art to which said patented invention pertains?

3. What is the right of the public to employ the teachings of the expired patented art for the solution of an identical problem in a field of use that is non-analogous to the use of said patented art?

## THE STATUTES WHICH THIS CASE INVOLVES.

This case involves Sections 102(a) and 103 of the Patent Laws, (35 U.S.C. 102(a), 103) which read as follows:

> **"102. Conditions for Patentability; novelty and loss of right to patent.**
>
> A person shall be entitled to a patent unless—
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, • • •"

> **"103. Conditions for Patentability; non-obvious Subject Matter**
>
> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

## STATEMENT OF THE CASE.

1. Respondent, Ekstrom-Carlson & Co., an Illinois corporation, is the owner of Mann Patent No. 2,723,598 granted November 15, 1955 for an alleged invention in "Power Actuated Router" (a so-called articulated arm machine tool having a motor driven rotatable cutter adapted to be moved in any direction in a horizontal plane for cutting out shapes from metal sheets and plates).

2. Petitioner, Onsrud Machine Works, Inc., is an Illinois corporation with its factory at Niles, Illinois, within the Northern District of Illinois, and is engaged *inter alia*, in the manufacture and sale of machine tools including manually operated and power actuated articulated arm router machines.

3. Respondent instituted infringement suit against petitioner on claims 16, 17, 18 and 20 of the Mann patent in the United States District Court for the Northern District of Illinois, Eastern Division, by reason of the manufacture and sale by petitioner of its power actuated articulated arm router machines.

4. The Mann patent discloses (Petitioner's Appendix below, p. 155) the usual, well known double-arm form of articulated arm router machine in which the motor driven cutter or routing tool is carried by two horizontal arms, one of which is pivoted at one end of a pedestal to swing horizontally about a vertical axis and the other of which is pivoted to the outer end of the first arm to swing horizontally relative to the latter about a parallel axis, much like the human fore arm and upper arm hinged at the elbow and shoulder and swinging in a horizontal plane. The cutter or routing tool is carried at the free end of

the second or outer arm and is motor driven to rotate about a third vertical axis. Coaxial with the cutter and above the cutting portion thereof is a circular follower designed to engage the edge of a template usually secured to the top of the workpiece. By moving the follower along the periphery of the template, the cutting tool cuts the workpiece to the shape of the template.

5. In addition to the foregoing structure the patent discloses a first reversible hydraulic piston-and-rack actuator mounted on the inner arm to act against the pivot thereof for swinging the inner arm about its pivot axis; a second reversible piston-and-rack actuator on the inner arm and adapted to swing the outer arm about its pivot on the inner arm; and a control means for selectively energizing the two actuators simultaneously to produce a resultant force on the follower and cutter to hold the follower against the template and feed the cutter through the work.

6. Manually operated heavy duty router machines of this construction, *lacking only the two actuators and the control means therefor,* have been made and sold by petitioner since about 1938 and by respondent since about 1942, long prior to the alleged invention in 1951 of the subject of the claims of the Mann patent charged to be infringed, and such machines were manipulated by the operator pushing and pulling on the tool end of the outer arm and applying his physical force in such a direction that one component of the force would be effective to hold the follower firmly against the edge of the template while another component of the force would feed the cutter through the workpiece along the edge of the template.

7. It is the *combination* of the two actuators and a control means therefor with the old manually operated

double-arm router machine, to provide a motorized form thereof, that is advanced by respondents to be the *invention* defined by claims 16, 17, 18 and 20 of the Mann patent; each of these claims calls for nothing more than the *addition* of the two actuators and the control means to the old manually operated machine; and it is this *combination* that petitioners have been charged to infringe.

8. Long prior to the invention of the Mann patent, Beardsley and Piper patent No. 1,335,641, dated March 30, 1920, (Petitioner's appendix below p. 177) disclosed the improvement of a manually operated double-arm molding machine for delivering sand at a high velocity into a foundry mold which improvement comprised the addition to the double-arm machine structure of a first reversible hydraulic piston-and-rack actuator for swinging the inner arm about its pivot axis on a vertical support, a second reversible piston-and-rack actuator for swinging the outer arm about its pivot axis on the free end of the inner arm, and control means for selectively energizing the actuators simultaneously. This machine is known as the "*Sandslinger*" machine and differs structurally from the router defined by claims 16, 17, 18 and 20 of the Mann patent *only with respect to the nature and use of the tool or work head carried at the free end of the outer arm.*

9. Clay et al patent No. 2,212,510, dated August 27, 1940 (Pet. App. below, p. 231) discloses an improvement of the "Sandslinger" machine by the use of electric motors, one for each arm, to selectively and simultaneously actuate the two arms of the articulated arm structure; and Clay, et al patent No. 2,339,001 dated January 11, 1944 (Pet. App. below, p. 241) discloses an improved "joy-stick" operated control system for the hydraulic actuators of the "Sandslinger" machine. *The disclosures of these patents differ from the subject matter of claims*

*16, 17, 18 and 20 of the Mann patent only with respect to the use to which the structure is put, i.e. the function of the tool carried by the articulated arms.*

10. Prior to the invention of the Mann patent, Taylor patent No. 2,069,189 dated January 26, 1937 (Pet. App. below, p. 217) disclosed the improvement of a pantograph type of articulated arm routing machine by the *addition* of a reversible rotary hydraulic actuator to each of the primary arms of the articulated arm structure and by providing a control means for selectively and simultaneously energizing the two actuators. The disclosure of this patent is for the same purpose as the invention of the subject matter of claims 16, 17, 18 and 20 of the Mann patent *and differs therefrom only in details of old and unpatentable structures.*

11. Petitioner designed and built its first power actuated double arm router more than two years prior to the issuance of the Mann patent and in doing so adopted the teachings of the Taylor patent No. 2,069,189 for hydraulic actuation of the two arms of its old manual machine and devised its own simplified wholly hydraulic, joy-stick operated, dual valve system for controlling the operation of the two actuators. Petitioner's accused machine is shown on pages 143 and 144 of its appendix printed for the Court below.

12. The District Court, without opinion adopted the proposed Findings of Fact and Conclusions of Law submitted by respondent after the trial and held claims 16, 17, 18 and 20 of the Mann patent to be valid and infringed.

13. The Court of Appeals (Ch. Judge Hastings and Judge Knoch), with a dissenting opinion (by Judge Swygert), affirmed the District Court. In doing so the ma-

jority rejected petitioner's contention that the claims in issue are invalid under 35 U.S.C. 103, as calling for nothing more than what would be obvious in view of the prior art, and held that the "Sandslinger" patents were non-analogous art. Thus, the majority, in effect, considered the "Sandslinger" patents to be beyond the scope of the *prior art* contemplated by 35 U.S.C. 103. Judge Swygert, however, in his dissenting opinion, considered the "Sandslinger" patents and the Taylor patent to be directly in point and held

> "What is involved is the concept of simultaneously and selectively controlled actuators which cause the cutter of the router to move along a determined path. This concept is taught in the prior art of designing machinery having articulated arms. A double-armed router is such type machine and it would have been obvious to one having ordinary skill in this art to adopt the teachings of the prior art in motorizing the double-arm router."

14. In the entire Machine Tool Industry of the United States only petitioner and respondent manufacture a double-arm router adapted for heavy duty work on metal. Therefore the Mann patent as sustained by the Court of Appeals concededly completely dominates the entire industry as far as motorization of the double-arm structure, in the manner taught by the prior art, is concerned.

15. Moreover, only petitioner and respondent manufacture a power actuated double-arm router and the entire industry in such machines is concentrated within the jurisdiction of the Seventh Circuit so that there is no likelihood of further adjudication of the patent hereafter.

## REASONS RELIED UPON FOR THE GRANT OF A WRIT OF CERTIORARI.

The discretionary power of this Court is invoked upon the following grounds:

**1. The Court of Appeals for the Seventh Circuit has sustained as valid claims of a patent which concededly dominate and control an industry, which industry is concentrated within the Seventh Circuit, whereby litigation elsewhere with a resulting conflict of decisions is improbable.**

The entire industry in the manufacture of double-arm router machines is concentrated in the Seventh Circuit, petitioner and respondent being the sole suppliers of such machines in the United States (Affidavit, page 1a of Appendix hereto). The manually operated double-arm router, originated by petitioner, has been used since 1938 for cutting out shapes from sheet metal stacked to a height of about 5/8 inch.

Power actuated routers of this kind became necessary when the need developed in the aircraft industry to supplement manual effort in cutting out shapes from relatively thick plates instead of sheets and such routers, respondent asserts, and the Court of Appeals held, constitute the invention of the patent in suit. The patent, therefore, concededly dominates the entire industry in power actuated double-arm routers. For this reason, it is believed, certiorari should be granted. *Muncie Gear Works* v. *Outboard Marine & Mfg. Co.*, 315 U.S. 759; *Exhibit Supply Co.* v. *Ace Patents Corps.*, 315 U.S. 126.

**2. The Court of Appeals for the Seventh Circuit has decided a question of law without regard to the question of what standards are to be applied in determining, under the provisions of 35 U.S.C. 103, whether the subject matter sought to be patented as a whole would be obvious to a person having ordinary skill in the art to which said subject matter pertains.**

No decision of this Court has laid down the standards which are to be applied as a measure for the above determination. The Courts and the Patent Office have no common basis upon which to evaluate the "prior art" in determining whether it should even be considered on the question of obviousness, with the result that there is no uniformity in practice, or in the decisions upon which the public can make a reasonable determination of its rights to use the teachings of the prior art in the natural advance of the technical arts called upon by normal industrial progress. *"Commentary on the New Patent Act"* by P. J. Federico, 35 U.S.A. 1 at pp. 22, 23.

**3. The Courts below have no uniform criteria for determining whether prior art relied upon to show that an invention would be obvious to a person of ordinary skill in the art to which the invention pertains is analogous or non-analogous to that invention; and if non-analogous whether such art should be applied or rejected.**

Previous attempts to provide a definition of analogous and non-analogous prior art have failed to establish definite criteria. The Court of Appeals for the Seventh Circuit made such an attempt in 1927 when, in the case of *A. J. Deer Co.* v. *U.S. Slicing Machine Co.*, 21 Fed. 2, 812, it said:

> "If the elements and purposes in one art are related and similar to those of another art, and

> because and by reason of that relationship and similarity make an appeal to the mind of a person having mechanical skill of the purposes of the other art, then we are of the opinion that such arts must be said to be analogous, and, if the converse is true, they are non-analogous arts".

This rule, however, although often quoted with approval, has never been correlated with the 1952 statute (35 U.S.C. 103) and provides no criteria for determining whether the analogy must relate to the *invention itself* or to the use or purpose of the subject matter as a whole (the alleged new combination).

**4. The Court of Appeals for the Seventh Circuit has sustained as valid claims which deprive the public of the free use of an old combination for the solution of the identical problem for which it was first adopted merely because the said claims are limited to a different field of use than that of the prior art. This holding is untenable because it is in direct conflict with the applicable decisions of this Court.**

This Court has long ago established the principle that "a patent for a combination which only unites old elements with no change in their respective functions. • • • obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men." *Great A. & P. Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147; *Atlantic Works* v. *Brady*, 107 U.S. 192; *Blake* v. *San Francisco*, 113 U.S. 679.

Also it is the long settled rule of this Court that • • • "the application of an old process or machine to a similar or analogous subject, with no change in the manner of application, and no result substantially distinct in its nature, will not sustain a patent, even if the new form

of result has not before been contemplated." *Pennsylvania Railroad Co. v. Locomotive Engine Safety Truck Co.*, 110 U.S. 490.

In the present case, neither the actuators, the manner of their application and control, nor the particular Machine with which they are combined, is new. Each is employed in the patented combination precisely as in the prior art.

**5. The Court of Appeals for the Seventh Circuit in interpreting and applying 35 U.S.C. 103 has excluded prior art teaching the solution of the problem of the invention in issue merely because the use of the prior art structure is different than the use of the said invention, thereby rendering it impossible for the public to determine what it is free to use of the teachings of the expired patented art.**

It is respectfully submitted that under the Patent Laws of the United States (35 U.S.C. 102) the public has the right to assurance that once a device, or the solution of a particular problem, is in the public domain, it is secure from preemption by a patent. *Blake v. San Francisco*, 113 U.S. 679, 682.

Whether one can appropriate for himself that which is expressly taught in an expired patent merely because he adopts it for an old machine having a different and non-analogous use is, we believe, a question of immediate public importance and a proper subject for consideration by this Court.

**6. This Court has not yet ruled on the interpretation of 35 U.S.C. 103 and the meaning to be accorded to the term "prior art", as used therein, with respect to the scope of the art to be considered, when applying the standards of invention enunciated by this Court in Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, to determine whether a combination of old elements would be unobvious to a person of ordinary skill in the art to which the subject matter of an invention pertains.**

Where a combination is conceived for a certain purpose, in the present case the motorizing of an old machine, does 35 U.S.C. 103 intend to limit the applicable *prior art* to that relating to the particular *use* of the machine involved, or is it the intention of this section to refer to any prior art relevant to the purpose of the *invention?* The answer to this question is believed to involve the distinction between **"the subject matter sought to be patented"** and **"the subject matter as a whole"** as these terms are employed in the statute. This has a definite bearing upon the determination of whether particular prior art is analogous or non-analogous and the manner in which the standards of invention established by this Court are to be applied.

## CONCLUSION.

For the reasons herein set forth, it is believed that this petition for a writ of certiorari to the Seventh Circuit Court of Appeals should be granted.

Respectfully submitted,

CHAS. W. RUMMLER,
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# APPENDIX.

In the

SUPREME COURT OF THE UNITED STATES

October Term 1961

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ONSRUD MACHINE WORKS, INC.
*Petitioner*

v.

EKSTROM-CARLSON & CO.
*Respondent*

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## AFFIDAVIT IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

State of Illinois )
County of Cook ) ss.

Rudolph F. Onsrud, being duly sworn, deposes and says that he is of legal age, and is Chairman of the Board of Directors of petitioner, Onsrud Machine Works, Inc.;

That for many years he served as President of petitioner and knows the names and addresses of the various manufacturers of machine tools sold in competition with the products of his company; that petitioner and respondent, both located in the State of Illinois, are the only two machine tool manufacturers in the United States who manufacture double-arm router machines; and that the entire industry in the manufacture of double-arm router machines is concentrated in the State of Illinois within the Seventh Judicial Circuit of the United States.

/s/ Rudolph F. Onsrud
Rudolph F. Onsrud

Sworn to and subscribed before me
this 29th day of March, 1962.
/s/ J. M. Wilkin
Notary Public
(Seal)
Comm. expires Nov. 8, 1965.

In the
UNITED STATES COURT OF APPEALS
For the Seventh Circuit

SEPTEMBER TERM, 1961—JANUARY SESSION, 1962

No. 13459
EKSTROM-CARLSON & Co.,
*Plaintiff-Appellee,*
v.
ONSRUD MACHINE WORKS, INC.,
*Defendant-Appellant.*

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division.

January 4, 1962

Before HASTINGS, *Chief Judge*, KNOCH and SWYGERT, *Circuit Judges*.

HASTINGS, *Chief Judge*. This is a patent infringement action brought by Ekstrom-Carlson & Co., an Illinois corporation, plaintiff-appellee, against Onsrud Machine Works, Inc., an Illinois corporation, defendant-appellant.

Defendant is charged with infringing United States Letters Patent No. 2,723,598 entitled "Power Actuated Router." The patent was issued to Theodore C. Mann on November 15, 1955 upon an application filed December 26, 1951. Since the date of issuance, plaintiff has been and is now the owner of such patent as assignee of Mann.

Defendant answered, denying infringement and asserting invalidity. By stipulation of the parties, Claims 16, 17, 18 and 20 of the Mann patent were relied upon by plaintiff at the trial.

Following five days of trial, briefs and proposed findings of fact and conclusions of law were submitted by both parties. Each party submitted objections to the findings

and conclusions proposed by the other party. The trial court heard oral argument thereon.

Thereafter, the trial court adopted and entered the findings and conclusions favorable to plaintiff and entered a decree holding Claims 16, 17, 18 and 20 of Mann Patent No. 2,723,598 to be valid and infringed. This appeal followed.

The Mann patent in suit relates to a power actuated double-arm router. Both parties manufacture and sell machine tools of this type, this being also known as an articulated or broken-arm router. A router is a machine tool used in cutting materials along a designated pattern or line. It moves in a horizontal plane similar to the action of a human arm.

Finding No. 4 properly describes the general basic structure of plaintiff's machine as follows:

> "4. In general, a router is a machine capable of following an irregular pattern and usually is employed for cutting wood and nonferrous metals. In the case of a double-arm router, the tool is supported by two horizontal arms, one of which is pivoted at one end to a pedestal to swing horizontally about a vertical axis and the other of which is pivoted to the outer end of the first arm to swing horizontally relative to the latter about a parallel axis, much like the forearm and upper arm hinged at the elbow and shoulder. The cutting tool is carried at the free end of the second or outer arm and is power rotated about a third vertical axis. Coaxial with the tool is a circular follower which is designed to engage the edge of a template usually secured to the top of the workpiece. By moving the follower along the periphery of the template, the tool cuts the workpiece to the shape of the template. Heavy duty routers of this type have been made by defendant since 1940 and by plaintiff since 1941 or 1942. Originally, movement of the follower and tool around the template, as permitted by the free swing of the arms, was effected manually by the person pushing and pulling on the tool end of the outer arm."

It is agreed by the parties that Claim 17[1] is typical of Claims 16, 17 and 18 and that Claim 20[2] is distinguished from them by being limited to a "joy-stick," a manually operated control means for the two actuators. By manipulating the joy-stick, the operator controls the directions in which the pistons move and hence the directions in which the arms swing. In this way, the two arms exert individual forces which combine as a resultant force acting on the follower and the tool.

For some years before Mann designed and perfected the machine of the patent in suit, the aircraft industry

[1] "17. A double arm router having, in combination, a stationary supporting member, an inner arm member pivoted at one end on said stationary member to swing about a fixed axis, a reversible power actuator mounted on one of said members and acting between the two members to exert a force tending to swing said inner arm member about said axis, an outer arm member pivoted at one end on the outer free end of said inner arm member to swing relative thereto about an axis parallel to said first axis, a second and separate reversible power actuator mounted on one of said arm members and acting between the two arm members to exert a force tending to swing the outer arm member relative to the inner arm member about said second axis, a power rotated cutter and a template follower mounted on the outer free end of said outer arm member and disposed on a common axis paralleling said first and second axes, and selectively controllable means for effecting energization of said actuators simultaneously to produce a resultant force acting on said follower to cause the latter to follow around the changing peripheral contour of a template."

[2] "20. A double arm router comprising a stationary support, an inner arm pivoted at one end on said support to swing about a fixed axis, an outer arm pivoted at one end on the outer free end of said inner arm to swing relative thereto about a second axis paralleling said fixed axis, a power rotated cutter and a template follower mounted on the outer free end of said outer arm and disposed on a common axis which parallels said first and second axes and is fixed relative to said outer arm, a first reversible power actuator acting between said support and said inner arm and operable when energized to exert a force tending to swing said inner arm relative to said support about said fixed axis, a second and separate reversible power actuator acting between said inner and outer arms and operable when energized to swing the outer arm relative to the inner arm about said second axis, a manually movable control member mounted for movement relative to said cutter and follower in a plurality of different directions extending transversely of said common axis, a first control mechanism selectively operable to energize said first actuator and cause said inner arm to swing back and forth about said fixed axis, a second control mechanism selectively operable to energize said second actuator and cause said outer arm to swing back and forth about said second axis, and means coupling said member and said control mechanisms to activate the latter selectively and cause said actuators to produce a resultant force acting transversely of said common axis and thereby urge said cutter and follower in a direction correlated with the direction of movement of said member."

had an urgent need for power actuated routers. The development of high speed airplanes called for the use of heavier and thicker materials in the "skins" of the structure. The need was defined as one "for cutting thick slabs of aluminum and multiple sheet thickness" where rather thin sections had been used before. The manually operated routers resulted in operator fatigue and required slow tedious machining. They did not operate with the degree of accuracy required.

There was evidence that this need in the aircraft industry became urgent in the middle 1940's. Defendant's sales representative spoke of North American Aviation Company first having a "crying need" for it when it started using integrally stiffened skins. Shortly after that, Lockheed Aircraft Corporation and other aircraft manufacturers sought help in solving this problem. Lockheed tried for a year to develop such a router and failed.

In December, 1950, North American requested plaintiff to see if power could be applied to a double-arm router. This invitation led to the subsequent design and development of the patented device by Mann, plaintiff's chief engineer.

Defendant challenges certain findings of fact concerning the background of the patented router and its commercial history. Particular exception is taken to parts of Findings 5 and 10. Findings 5 to 10, inclusive, read as follows:

> "5. For over sixteen years before Mann made the machine of the patent in suit, the aircraft industry and others sought to obtain power actuated routers. Although other types of routers were developed for power actuation, power actuation of the double-arm router remained an unrealized goal. The need in the aircraft industry became urgent in the middle 1940's. The giants of the aircraft industry repeatedly called upon their suppliers to furnish a machine and even devoted their own engineering talent to the project. Yet, prior to Mann, all of these efforts were unsuccessful.

"6. When Mann was presented with the problem in early 1951, he conceived the idea of applying power individually to each of the arms of the router by separate power actuators controlled by a single handle, the actuators serving both to hold the follower against the template and to feed the tool through the work. He was the first to recognize that the two actuators would produce a resultant force at the end which would simulate the force that had been applied manually and that the resultant force would accurately hold the follower against the template while advancing the tool.

"7. Almost immediately, North American Aviation paid tribute to Mann's conception by awarding plaintiff a purchase order for a double-arm router powered according to Mann's idea. Working continuously from early 1951, plaintiff had built and successfully tested the router by late summer of that year.

"8. As originally built, plaintiff's router conformed in all material respects with the preferred embodiment disclosed in the patent in suit. Subsequently, before shipment in 1952 improvements were made, most noticeable of which was the removal of the control from the head of the router to a remote station, and also an all-electric version of the router was designed. Both the hydraulic and electric routers as manufactured and sold commercially by plaintiff respond to the terms of one or more claims of the patent in suit.

"9. At the time plaintiff produced its first power actuated double-arm router, there was no comparable machine in existence nor was there any machine even approaching plaintiff's. Plaintiff sold its hydraulic machines for approximately $35,000.00 and its electric machines for $45,000.00, that being about one-eighth of the price of machines concurrently designed to do the same job. Its total business in these machines approaches three-quarters of a million dollars.

"10. Not until after plaintiff had built its machine did anyone else successfully construct a power operated double-arm router. All attempts made prior to or concurrently with Mann's endeavor failed. Indeed, Lockheed Aircraft Corporation devoted an entire development project to the design and construction of such a router and, after a year's effort, abandoned the project without success."

From our examination of the record we have no difficulty in finding adequate support for these findings, and they are not clearly erroneous. Rule 52(a), Federal Rules of Civil Procedure, 28 U.S.C.A.

Defendant contends that the claims in suit "are invalid as calling for nothing more than what would have been obvious at the time the invention was made and for failure to define patentable invention under the provisions of 35 U.S.C.A. 103."

In support of this contention, defendant argues that all Mann did was to take an old manually operated machine then being manufactured and sold by both parties and "add an actuator or motor for swinging each arm and a control means for the two motors." Defendant asserts that the "claims in issue call for nothing more than the combination with a *particular* machine of the power actuators and control means taught by the prior art for exactly the same purpose."

At trial, defendant cited 31 prior art patents and 8 publications. None of these shows a power operated double-arm router except Smith, No. 2,693,737, and the trial court found that this was not shown to antedate Mann's invention. Further, it was shown that the claims of the patent in suit define a new combination different from any shown in the cited prior art.

Defendant's own expert, Dr. Ziegler, admitted that Clay No. 2,339,801 and Taylor No. 2,069,189 were the "two best references" referred to by defendant. Both of these patents were cited as references in the file wrapper of the patent in suit and were considered and rejected by the

Patent Office. The trial court was justified in relying upon the presumption of validity attached to the finding of invention by the Patent Office, and under the foregoing circumstances this presumption is greatly reinforced. *AMP Incorporated* v. *Vaco Products Co.*, 7 Cir., 280 F. 2d 518, 521 (1960); *Hunt* v. *Armour & Co.*, 7 Cir., 185 F. 2d 722, 726 (1950); *Lewyt Corporation* v. *Health-Mor, Inc.*, 7 Cir., 181 F. 2d 855, 857 (1950); *Copeman Laboratories Co.* v. *General Plastics Corp.*, 7 Cir., 149 F. 2d 962, 964 (1945), 35 U.S.C.A. § 282.

Defendant cites as the "next most important prior art" that which concerns the development of a power actuated double-arm molding machine or "Sandslinger." A "Sandslinger" is described as a power rotated centrifugal device rotating on a horizontal axis and adapted to project wads of molding sand vertically downward into an open top flask containing a mold pattern used in making a mold for a casting. This is exemplified by Beardsley and Piper Patents Nos. 1,309,833 and 1,335,641 and Clay No. 2,339,001. Beardsley and Piper were not before the Patent Office. The trial court was justified in finding that the "Sandslinger" patents were "ineffective to suggest the application of power to a double-arm router." They had no suggested use with a template and concerned an entirely different subject matter. We find no similarity of their elements and purposes. We find no relationship between the art taught in the "Sandslinger" patents to the art revealed in the claims of the patent in suit. They are not analogous. *B. & M. Corp.* v. *Koolvent Aluminum Awning Corp. of Ind.*, 7 Cir., 257 F. 2d 264, 266-67 (1958); *Copeman Laboratories Co.* v. *General Plastics Corp.*, 7 Cir., 149 F. 2d 962 (1945); *A. J. Deer Co.* v. *U.S. Slicing Mach. Co.*, 7 Cir., 21 F. 2d 812, 813 (1927).

With reference to what the prior art was and the showing it made before the patentee produces his invention, it seems appropriate to cite what we said in *Armour & Co.* v. *Wilson & Co.*, 7 Cir., 274 F. 2d 143, 156 (1960):

> "The first part [of what constitutes patentable invention under Title 35, U.S.C.A. §§ 102, 103] relates

to the showing made by the prior art before the patentee produces his invention. This is to be determined upon the basis of testimony and documentary or physical exhibits. The testimony relates to the use made of prior art, and the documentary and physical exhibits do not stand mute but speak for themselves. Upon review, these are facts subject to Rule 52(a) and the exception found in the 'Documentary Rule.'"

"Our review of the record compels the conclusion that the finding of the trial court that no one "of defendant's many pieces of prior art matches plaintiff's router" is not clearly erroneous and must stand. The same can be said of the further finding below that the "device defined by Claims 16, 17, 18 and 20 of the Mann Patent in suit are [sic] not anticipated or taught by the prior art."

We next consider what the patentee did to improve upon the prior art. Defendant argues that he did nothing and contends in substance that the patented router is merely a motorized manual router of the type already in production and use. We do not agree. That was the approach taken by Lockheed and it failed. It was not the way Mann solved the problem.

Plaintiff's router followed the concept in which components are added to the router structure and in which even those parts common to the manual router perform new and different functions.

Plaintiff aptly cites the testimony of Fishleigh, its expert witness on this subject where, on cross-examination, he explained:

> "* * * in the manual machine you moved the tool itself * * *. But here [in the patented router] we changed to a different mode of operation, where instead of moving the item itself we go back and [move the tool] by manipulating some arms in a rather unusual way * * *. * * * In my understanding, the function of the machine is, in the one case [the manual router], to support a cutter mechanism or

motor mechanism in such a manner that it can be moved. In the other case [the patented router] the function of the machine is to have that supporting mechanism bodily move the cutter through a desired path • • •."

The effect of this is, as plaintiff points out, that "Mann no longer used the arms simply to support the tool. He put them in a *new combination* in which they served the additional and more important purpose of *moving the tool under power.*"

The answer to defendant's contention that the trial court made no finding of fact showing what Mann did inventively to improve upon the prior art is to be found in Findings 5, 6, 9 and 10, *supra.*

On this question we again advert to our holding in *Armour & Co.* v. *Wilson & Co., supra* at 156:

> "The next element is concerned with the nature of the improvement the patentee has made over the prior art. Has he taught anything that is different? If there is no improvement, the patent is anticipated under Section 102 of the Patent Act. If there is an improvement, we look to Section 103 to see whether there is a difference or to ascertain the nature of the improvement over the prior art. The determination of this element of 'novelty' usually finds its genesis in expert testimony and as such is a question of fact, and on appeal, is within the scope of Rule 52(a)."

We are convinced that the findings of the trial court sustain a holding that Mann did inventively improve upon the prior art and that such findings are not clearly erroneous.

We finally reach the question whether, under Section 103 of the Patent Act, "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." This requires us to look to the standard

of invention applied to the findings of fact as to invention. In other words, did the trial court apply the correct legal criteria to the factual determination it made? "This calls for the exercise of a legal judgment" and as such is subject to review in this court "as a question of law." *Armour & Co.* v. *Wilson & Co., supra* at 156.

A reading of the conclusions of law entered by the trial court, following its findings of fact, demonstrates to our satisfaction that it did apply correct legal criteria in determining whether the statutory standard of invention had been satisfied.

Speaking for this court in a recent decision, Judge Duffy succinctly stated the rule applicable in the case at bar:

> "This Court has often applied the well-established rule of law that a novel combination of elements, whether all new, or all old, or partly new and partly old, which so cooperate as to produce a new and useful result or a substantial increase in efficiency, is patentable. *Mojonnier Dawson Co.* v. *United States Dairies Sales Corp.*, 7 Cir., 251 F. 2d 345, cert. den., 356 U.S. 975; *Blaw-Knox Company* v. *I. D. Lain Company*, 7 Cir., 230 F. 2d 373; *Lewyt Corporation* v. *Health-Mor Inc., et al.*, 7 Cir., 181 F. 2d 855, cert. den. 340 U.S. 823." *Minneapolis-Honeywell Regulator Company* v. *Midwestern Instruments, Inc.*, 7 Cir., ..... F. 2d ..... (November 29, 1961).

This falls within the teachings of *A. & P. Tea Co.* v. *Supermarket Corp.*, 340 U.S. 147 (1950).

When we add to the foregoing rule on combinations the fact that the disclosures of the patent in suit first solved the long existing problem facing the aircraft industry, the acceptance of the patented device by the industry and defendant's imitation of plaintiff's machine, the defense of obviousness must fall.

Further, the fact that Mann produced his patented machine within a relatively short time, after receiving an invitation to solve the problem, does not necessarily point

to obviousness but rather, in our opinion, is one indication of inventive genius.

We hold that the trial court did not err in concluding as a matter of law that the patent claims in suit were valid.

It is conceded by defendant that if the claims in issue are valid they are infringed by defendant's accused structures. Accordingly, the finding of infringement by the trial court must be sustained.

The judgment of the district court in all respects is affirmed.[3]

AFFIRMED.

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SWYGERT, *Circuit Judge*, dissenting.

I must respectfully dissent. It is my view that the District Court's Finding 15 containing the statement, "The solution of the problem of providing power operation of a double-arm router required more than the ordinary skill of a machine tool designer," is clearly erroneous if viewed as a finding of fact or is not justified as a conclusion of law if so classified under the doctrine of *Armour* v. *Wilson*, 274 F.2d 143.

The claims in issue relate to reversible power actuators for moving the inner and outer arms of the double-arm router and selectively controllable means for effecting energization of said actuators simultaneously to produce a resultant force on the follower so as to cause it to follow the contour of the template. Claim 20 limits the control of the two actuators to a "joy-stick" control means. Other claims not in issue relate to the peculiar means described in the patent for energizing the motors simultaneously so as to provide "for varying the magnitude and direction of the separate force components and thereby enable the direction of the resultant force to be varied widely and throughout a complete circle."

[3] See Comment, "Appellate Review of Determinations of Patentable Inventions," 29 U. Chi. L. Rev. 185 (1961).

Consideration of the patent's validity must be limited to the claims in issue and when these broad claims are considered in relation to the prior art, I am of the view that the use of motors as a substitute for manual operation of the router arms and a selective control means for operating the motors simultaneously to produce a resultant force on the follower would be obvious to a machine tool designer having the prior art in mind. The teachings of the prior art contained in the Taylor patent, number 2,069,189, the "sandslinger" patents issued to Clay, numbered 2,339,001 and 2,212,510, and to Beardsley and Piper, numbered 1,309,833, would make it obvious to one skilled in the art of tool designing that such disclosures could be applied to the double-arm router as set forth in claims 16, 17, 18 and 20 of the Mann patent.

The Beardsley and Piper patent, number 1,309,833, teaches the utilization of separate reversible power actuators on each arm of a sandslinger which structurally is similar to the double-arm router involved in the present patent, and also a selectively controllable means for energizing the actuators simultaneously to produce a resultant force causing the work-head to move in the desired direction. An improvement on the Beardsley and Piper patent was effected by Clay (Patent number 2,339,001) who devised a control means of a type identical with the "joy stick" control member defined in claim 20 of the patent in suit. The Beardsley and Piper and Clay patents show the same kind and arrangement of power actuators and control means for a double-arm machine that Mann adopted in replacing power for manually operated double-arm routers. The Taylor patent, number 2,069,189, also teaches the use of separate power actuators on two of the arms of a pantograph copying machine and a manually movable control member—a selectively controllable means for energizing the actuators simultaneously to produce a resultant force in the direction selected by the operator of the control member.

The claims in issue call for power actuators. Beardsley and Piper as well as Taylor teach the use of such actua

tors. The claims call for selective control of the energization of the actuators on both arms simultaneously. Clay teaches that this can be done. If the means disclosed in Clay were employed in a double-arm router, a resultant force would be obtained on the follower which would guide the follower around the template. It may well be that there is invention in the system of cylinders, pistons, valves, solenoids, and electrical circuits described in the patent and used in producing an alternately high or low torque on each arm so as to hold the follower against the template and at the same time move the cutter through the work-piece. That system is not involved in the claims in issue here. What is involved is the concept of simultaneously and selectively controlled actuators which cause the cutter of the router to move along a determined path. This concept is taught in the prior art of designing machinery having articulated arms. A double-armed router is such type machine and it would have been obvious to one having ordinary skill in this art to adopt the teachings of the prior art in motorizing the double-arm router.

For the foregoing reasons I would hold that Section 103 of the Patent Act requires a determination that the contested claims of the patent in suit are invalid as a matter of law; therefore, I would reverse.

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ORDER OF JUDGMENT (January 4, 1962)

This cause came on to be heard on the transcript of the record from the United States District Court for the Northern District of Illinois, Eastern Division, and was argued by counsel.

On consideration whereof, it is ordered and adjudged by this court that the judgment of the said District Court in this cause appealed from be, and the same is hereby, AFFIRMED, with costs, in accordance with the opinion of this Court filed this day.

ORDER DENYING REHEARING (February 6, 1962)

IT IS ORDERED by the Court that defendant-appellant's petition for a rehearing of this cause be, and the same is hereby, DENIED.

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ORDER OF CHIEF JUDGE HASTINGS STAYING THE MANDATE (Feb. 12, 1962)

On consideration of the motion and affidavit of counsel for defendant-appellant,

IT IS ORDERED that the issuance of the mandate of this court be stayed for sixty (60) days from the date of the entry of the order denying petition for rehearing, in accordance with the provisions of Rule 28 of the rules of this Court.